APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,220	03/30/2004	Aravind Yalamanchi	50277-2415	7098

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EXAMINER
STEVENS, ROBERT

ART UNIT	PAPER NUMBER
2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/815,220	YALAMANCHI, ARAVIND
		Examiner	Art Unit	
		ROBERT STEVENS	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 July 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>42-59</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>42-59</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   The Office withdraws the previous rejections of the claims under 35 USC § 103(a), in

light of the amendment. However, the Office sets forth new rejections of the claims under 35

USC § 103(a), in light of the amendment.

Response to Arguments

2.   Applicant's arguments with respect to claims have been considered but are moot in view

of the new ground(s) of rejection.

It is further noted that any citation to specific, pages, columns, lines, or figures in the

prior art references and any interpretation of the references should not be considered to be

limiting in any way. A reference is relevant for all it contains and may be relied upon for all that

it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d

1331, 1332-1333, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d

1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

The Office also notes MPEP § 2144.01, that quotes In re Preda, 401 F.2d 825, 159 USPQ

342, 344 (CCPA 1968) as stating "in considering the disclosure of a reference, it is proper to take

into account not only specific teachings of the reference but also the inferences which one skilled

in the art would reasonably be expected to draw therefrom." Further MPEP 2123, states that "a

reference may be relied upon for all that it would have reasonably suggested to one having

ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft

Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989).

Continued Examination Under 37 CFR 1.114

3.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 7/28/08 has been entered.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

5.   **Claims 42-49 and 51-58 are rejected under 35 U.S.C. 103(a)** as being unpatentable

over S. Chakravarthy et al. ("Composite Events for Active Databases: Semantics, Contexts and

Detection", <u>Proc. of the 20th VLDB Conf.</u>, Santiago, Chile, © 1994, pp. 606-617, pp. 42-48,

hereafter referred to as "Chakravarthy") in view of Etzion et al. (US Patent No. 6,604,093,

filed Dec. 27, 1999 and issued Aug. 5, 2003, hereafter referred to as "Etzion").

Regarding independent claim 42: Chakravarthy teaches *A method for managing event-condition-action rules in a database system, the method comprising the computer-implemented steps of: detecting a first database event as an occurrence of a first one of the primitive events;* (See Chakravarthy page 611 in the 3rd paragraph under "4 Composite Event Detection" discussing the detection of a "constituent event".) *determining whether the first database event satisfies the at least one condition related to the composite event;* (See Chakravarthy page 611 in the 4th and 5th paragraphs under "4 Composite Event Detection" discussing initiator-terminator pairs and the serving of parameters used to compute the composite event.) *detecting a second database event as an occurrence of a second one of the primitive events;* (See Chakravarthy page 611 in the 3rd paragraph under "4 Composite Event Detection" discussing the detection of one or more "constituent events".) *and determining whether the at least one condition is satisfied based on the persistently stored result and the second database event.* (See Chakravarthy page 615 "Parameter Computation" section discussing the collection, recording and passing on of parameters for interpretation by condition/action components.)

However, Chakravarthy does not explicitly teach the remaining limitations as claimed. Etzion, though, discloses *storing data in a database that represents a composite event comprised of two or more primitive events, at least one condition related to the composite event, and at least one action related to the composite event;* (See Etzion Abstract in the context of Fig. 1 teaching the association of composite events, conditions and actions as situation management rules.) *persistently storing the result of the determining in the database;* (See

Etzion col. 11 line 61 – col. 12 line 5 discussing the options of skipping or saving event operator

instances results for future use.)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to apply the teachings of Etzion for the benefit of Chakravarthy, because to do so allowed a

designer to implement improved tools for responding to temporal relationships among events, as

taught by Etzion in col. 2 lines 34-40. These references were all applicable to the same field of

endeavor, i.e., composite event management.

Regarding claim 43: Chakravarthy teaches *and wherein the persistently stored result*

indicates the time the first database event was detected. (See Chakravarthy page 611 in the 5th

paragraph under "4 Composite vent Detection" discussing the recording of occurrences of each

constituent event, in the context of page 609 in the 1st paragraph under "3 Histories and Event

Logs" discussing the detection of the time at which constituent events occur.)

However, Chakravarthy does not explicitly teach the remaining limitations as claimed.

Etzion, though, discloses *determining that the at least one condition is satisfied by determining*

that the second database event was detected within a particular time after detecting the first

database event; (See Etzion col. 8 lines 44-56 discussing the detection of a threshold condition

and a "life span" in which the situation/conditions must take place.)

Regarding claim 44: Chakravarthy teaches ***and wherein the persistently stored result indicates the time the first database event was detected***. (See Chakravarthy page 611 in the 5th paragraph under "4 Composite vent Detection" discussing the recording of occurrences of each constituent event, in the context of page 609 in the 1st paragraph under "3 Histories and Event Logs" discussing the detection of the time at which constituent events occur.)

However, Chakravarthy does not explicitly teach the remaining limitations as claimed. Etzion, though, discloses ***determining that the at least one condition is satisfied by determining that the second database event was not detected within a particular time after detecting the first database event;*** (See Etzion col. 9 Table II at lines 30-37 discussing the "NOT" operator. Also, see col. 11 lines 14-17 discussing an expiration time.)

Regarding claim 45: Chakravarthy does not explicitly teach the remaining limitations as claimed. Etzion, though, discloses ***wherein the persistently stored result indicates that the first database event satisfied the at least one condition***. (See Etzion col. 11 line 60 – col. 12 line 8 discussing the return of values for (e11, e21) and (e13, e23).)

Regarding claim 46: Chakravarthy teaches ***wherein the persistently stored result indicates that the first database event satisfied that at least one condition before the second database event satisfied another condition related to the composite event.*** (See Chakravarthy page 609 in the 1st paragraph under "3 Histories and Event Logs" discussing the use of the times in which constituent events occur.)

Regarding claim 47: Chakravarthy does not explicitly teach the remaining limitations as claimed. Etzion, though, discloses *deleting the persistently stored result from the database after a period of time indicated by the at least one condition*. (See Etzion col. 11 lines 14-17 discussing the use of an expiration time, it having been implied that when a lifespan ended that its information was no longer needed.)

Regarding claim 48: Chakravarthy teaches *determining that the at least one condition is satisfied by based on the persistently stored result and the second database event;* (See Chakravarthy page 615 "Parameter Computation" section discussing the collection, recording and passing on of parameters for interpretation by condition/action components.) *and performing the at least one action related to the composite event.* (See Chakravarthy page 615 in the section entitled "5.2 Support for Rules" discussing a composite event triggering rules.)

Regarding claim 49: Chakravarthy does not explicitly teach the remaining limitations as claimed. Etzion, though, discloses *wherein the composite event comprised of two or more primitive events, the at least one condition related to the composite event, and the at least one action related to the composite event are specified in an expression received by the database, the expression identifying two or more primitive event structures, a join condition on the two*

or more primitive events, and the at least one action to perform in response to satisfying the

join condition. (See Etzion col. 11 lines 35-42 discussing the use of joint conditions.)

Claims 51-58 are substantially similar to claims 42-49, respectively, and therefore likewise rejected.

6.   **Claims 50 and 59 are rejected under 35 U.S.C. 103(a)** as being unpatentable over S. Chakravarthy et al. ("Composite Events for Active Databases: Semantics, Contexts and Detection", Proc. of the 20th VLDB Conf., Santiago, Chile, © 1994, pp. 606-617, pp. 42-48, hereafter referred to as "Chakravarthy") in view of Etzion et al. (US Patent on No. 6,604,093, filed Dec. 27, 1999 and issued Aug. 5 2, 2003, hereafter referred to as "Etzion") and Kumar et al. (US Patent on No. 7,149,738, filed Dec. 16, 2002 and issued Dec. 12, 2006, hereafter referred to as "Kumar").

Regarding claim 50: Chakravarthy does not explicitly teach the remaining limitations as claimed. Kumar, though, discloses *where the expression is specified using XML- extended SQL syntax.* (See Kumar col. 11 lines 2-9 discussing the use of an XML format. See also col. 13 lines 21-37 discussing the use of a variety of expression such as SQL. It is noted that SQL was an obvious variant of XML-extended SQL.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Kumar for the benefit of Chakravarthy in view of Etzion, because to do so enabled a designer to implement a user-friendly mechanism for managing resources, as taught by Kumar in col. 4 lines 16-23. These references were all applicable to the same field of endeavor, i.e., composite event management.

Claim 59 is substantially similar to claim 50, and therefore likewise rejected.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Non-Patent Literature

    Gupta, Ajay, et al., "Towards Bringing Database Management Task in the Realm of IT Non-Experts", ICDE '03, Mar. 5-8, 2003, pp. 832-839.

    Hanson, Eric N., et al., "Scalable Trigger Processing", 15th International Conf. on Data Engineering, Sydney, Australia, Mar. 23-26, 1999, pp. 266-275.

    Dittrich, Klaus R., et al., "SAMOS in Hindsight: Experiences in Building Active Object Oriented DBMS", Information Systems, Vol. 28, Issue 5, Jul. 2003, pp. 369-392.

    Gatzui, Stella, et al., "Events in an Active Object-Oriented Database System", Technical Report: ifi-93.11, © 1993, pp. 1-5.

    Vaduva, Anca, et al., "Graphical Tools for Rule Development in the Active DBMS SAMOS", 13th International Conf. on Data Engineering, Birmingham, UK, Apr. 7-11, 1997, page 587.

    Geppert, Andreas, et al., "A Designer's Benchmark for Active Database Management Systems: 007 Meets the BEAST", RIDS '95, Athens, Greece, Sep. 25-27, 1995, pp. 309-323.

    Fritschi, Hans, et al., "FRAMBOISE – An Approach to Framework-Based Active Management System Construction", CIKM '98, Bethesda, MD, © 1998, pp. 364-370.

    Gatzui, Stella, et al., "Unbundling Active Functionality", ACM SIGMOD Record, Vol. 27, Issue 1, Mar. 1998, pp. 35-40.

    Gatzui, Stella, et al., "Detecting Composite Events in Active Database Systems Using Petri Nets", 4th International Workshop on Active Databases, Houston, TX, Feb. 14-15, 1994, pp. 2-9.

    Gehani, N. H., et al., "Event Specification in an Active Object-Oriented Database", ACM SIGMOD, San Diego, CA, © 1992, pp. 81-90.

US Patent Application Publications

    Kumar et al   2004/0117407

US Patents

    Leymann et al   6,826,579

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Stevens whose telephone number is (571) 272-4102. The examiner can normally be reached on M-F 6:00 - 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Stevens/
Examiner
Art Unit 2162

October 25, 2008